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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Tomoyuki Ueno

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EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2665

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Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No. 09/625,717	Applicant(s) UENO, TOMOYUKI	
	Examiner Daniel J. Ryman	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments, see Response, filed 12/15/2005, with respect to the rejection(s) of claim(s) 12 under Applicant's admitted prior art and Edem et al. (USPN 5,559,796) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dupuy (USPN 5,430,774), of record, in further view of Sansom et al. (USPN 5,598,413).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Dupuy (USPN 5,430,774), of record, in further view of Sansom et al. (USPN 5,598,413).
5. Regarding claim 1, Applicant admits as prior art a bearer integration method for integrating a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said bearer integration method comprising the steps of: inputting bearer service data in synchronization with reference frame timing of a period T in a sending side (Figs. 1-5 and page 1, line 33-page 9, line

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30); outputting each bearer frame of said bearer service in the receiving side (Figs. 1-5 and page 1, line 33-page 9, line 30); and integrating said bearer service data into a wireless channel with another bearer service data (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=T-A$) between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side or that the another bearer service has delays B ($A \leq B \leq T$) and B' ($=T-B$) which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side; however, Applicant does disclose as prior art having a gap in the data stream due to frame misalignment. Dupuy teaches, in a wireless communication system, eliminating a gap in the data stream caused by frame misalignment by adding a delay to the data stream in order to decrease synchronization time (Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to delay the bearer service data by allocating delays between the sending side and a receiving side, and to have the another bearer service have delays which are allocated between the sending side and the receiving side in order to eliminate a gap in the data stream such that synchronization time is decreased.

Applicant's admitted prior art in view of Dupuy does not expressly disclose allocating a portion of the delay in the transmitter (A ($0 < A < T$)) and a portion of the delay in the receiver (A' ($=T-A$)). Rather, Applicant's admitted prior art in view of Dupuy discloses that the entire delay is added in the receiver (Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4,

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line 14; and col. 6, lines 1-19). Sansom teaches, in a system for synchronizing data streams, that a delay offset must be corrected either at the transmitter, the receiver, or both (col. 5, lines 49-54). As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to add delay in both the transmitter and the receiver as a matter of design choice.

Applicant's admitted prior art in view of Dupuy in further view of Sansom does not expressly disclose allocating a delay of one frame period; however, Applicant's admitted prior art in view of Dupuy in further view of Sansom does disclose allocating a delay. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Dupuy in further view of Sansom discloses allocating a delay, any delay, include one frame period, would have been obvious absent a showing of criticality by Applicant. Thus, Applicant's admitted prior art in view of Dupuy in further view of Sansom suggests delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 < A < T$) and A' ($A' = T - A$) between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of one time frame. Applicant's admitted prior art in view of Dupuy in further view

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of Sansom also suggests that the another bearer service has delays B ($A < B < T$) and $B' (= T - B)$ which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of one time frame.

6. Regarding claim 2, referring to claim 1, Applicant's admitted prior art in view of Dupuy in further view of Sansom suggests that when integrating bearer services in which each bearer service has different delay allocation, said bearer services are integrated into a wireless channel which has a delay equal to or larger than the maximum delay in said bearer services (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It is implicit that when streams of varying delay are integrated that the combined stream will have a delay equal to or larger than the maximum delay of the individual streams, and therefore the channel into which the stream is integrated must have a delay equal to or larger than the maximum delay of the individual streams.

7. Regarding claim 3, referring to claim 1, Applicant's admitted prior art in view of Dupuy in further view of Sansom discloses integrating one or more bearer services having any delay allocation into another bearer service having any delay allocation (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

8. Regarding claim 4, Applicant's admitted prior art discloses a bearer integration method for integrating a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said bearer

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integration method comprising the steps of: inputting each bearer frame of bearer service in synchronization with reference frame timing of a period T in a sending side (Figs. 1-5 and page 1, line 33-page 9, line 30); outputting each bearer frame of said bearer service in the receiving side (Figs. 1-5 and page 1, line 33-page 9, line 30); and integrating said bearer service into a wireless channel with another bearer service data (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art delaying each bearer frame of said bearer service by two frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=2T-A$) between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side or that the another bearer service has delays $T+B$ ($0 \leq B \leq T$) and B' ($=T-B$) which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side; however, Applicant does disclose as prior art having a gap in the data stream due to frame misalignment. Dupuy teaches, in a wireless communication system, eliminating a gap in the data stream caused by frame misalignment by adding a delay to the data stream in order to decrease synchronization time (Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to delay the bearer service data by allocating delays between the sending side and a receiving side, and to have the another bearer service have delays which are allocated between the sending side and the receiving side in order to eliminate a gap in the data stream such that synchronization time is decreased.

Applicant's admitted prior art in view of Dupuy does not expressly disclose allocating a delay a portion of the delay in the transmitter (A ($0 < A < T$)) and a portion of the delay in the

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receiver ($A' (=2T-A)$). Rather, Applicant's admitted prior art in view of Dupuy discloses that the entire delay is added in the receiver (Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). Sansom teaches, in a system for synchronizing data streams, that a delay offset must be corrected either at the transmitter, the receiver, or both (col. 5, lines 49-54). As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to add delay in both the transmitter and the receiver as a matter of design choice.

Applicant's admitted prior art in view of Dupuy in further view of Sansom does not expressly disclose allocating a delay of two frame periods; however, Applicant's admitted prior art in view of Dupuy in further view of Sansom does disclose allocating a delay. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Dupuy in further view of Sansom discloses allocating a delay, any delay, include two frame periods, would have been obvious absent a showing of criticality by Applicant. Thus, Applicant's admitted prior art in view of Dupuy in further view of Sansom suggests delaying each bearer frame of said bearer service by two frame periods by allocating delays A ($0 < A < T$) and $A' (=2T-A)$ between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the

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delay A' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of one time frame. Applicant's admitted prior art in view of Dupuy in further view of Sansom also suggests that the another bearer service has delays $T+B$ ($0 < B < T$) and $B' (=T-B)$ which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of two time frames.

9. Regarding claim 5, Applicant's admitted prior art in view of Dupuy in further view of Sansom discloses integrating a first bearer service in which delays A ($0 \leq A \leq T$) and $A' (=2T-A)$ are associated with a second bearer service in which delays B ($0 \leq B \leq T$) and $B' (=2T-B)$ are allocated between the sending side and the receiving side into a wireless channel C in which delays $T+C$ ($0 \leq C \leq T$) and $C' (=T-C)$ are allocated (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

10. Regarding claim 7, Applicant's admitted prior art in view of Dupuy in further view of Sansom suggests that a point of delay allocation between the sending side and the receiving side corresponds to frame offset timing (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19) since the delay is intended to ensure that the frames of a stream align in the receiver.

11. Regarding claim 12, Applicant admits as prior art a communication system which integrates a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said communication

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system comprising: a bearer data multiplexing part which time-division multiplexes bearer frames of the one or more bearer service output from a part wherein the bearer frames that are multiplexed are transmitted via a wireless channel (Figs. 1-5 and page 1, line 33-page 9, line 30); and a bearer data separation part which time division demultiplexing data of bearer integration received via a wireless channel (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art a receive delay adding part which delays each bearer frame of the one or more bearer services input before bearer integration timing up to reference frame timing, and delays each bearer frame of the one or more bearer services output from said bearer data separation part after bearer integration timing up to frame offset timing. Dupuy teaches, in a frame-based communication network, having a receive delay adding part which delays one or more data inputs in order to eliminate a gap in the data stream caused by frame misalignment in order to decrease synchronization time (Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a receive delay adding part which delays each bearer frame of one or more bearer services input before bearer integration timing up to reference frame timing, and delays each bearer frame of the one or more bearer services output from said bearer data separation part after bearer integration timing up to reference frame timing in order to eliminate a gap in the data stream caused by frame misalignment in order to decrease synchronization time.

Applicant's admitted prior art in view of Dupuy does not disclose a send delay adding part which synchronizes with reference frame timing, delays each bearer frame of one or more bearer services input before bearer integration timing up to each frame offset timing, and delays

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each bearer frame of the one or more bearer services input after bearer integration timing up to frame offset timing for bearer integration. Rather, Applicant's admitted prior art in view of Dupuy discloses having an entire delay added in the receiver (Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). Sansom teaches, in a system for synchronizing data streams, that a delay offset must be corrected either at the transmitter, the receiver, or both (col. 5, lines 49-54). As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to add delay in both the transmitter and the receiver as a matter of design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the to have a send delay adding part which synchronizes with reference frame timing, delays each frame of one or more frames input before integration (multiplexing) timing up to each frame offset timing, and delays each frame of the one of more frames input after integration timing up to frame offset timing for bearer integration in order to synchronize the frames to the multiplexed frame sequence.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Dupuy (USPN 5,430,774), of record, in further view of Sansom et al. (USPN 5,598,413) in further view of Edem et al (USPN 5,559,796), of record.

13. Regarding claim 6, Applicant's admitted prior art in view of Dupuy in further view of Sansom suggests delaying, in the sending side, a first bearer frame of said first bearer service which is input after bearer integration timing by a period $T+C$, delaying bearer frames of said first bearer service after a second bearer frame by a period C ; delaying, in the sending side, bearer frames of said second bearer service after a third bearer frame of said second bearer service which is input after bearer integration timing by a period C , integrating the first and the

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second bearer services into the wireless channel C and sending integrated data (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

Applicant's admitted prior art in view of Dupuy in further view of Sansom does not expressly disclose delaying, in the receiving side, the first bearer frame by a period $T-C$, delaying said bearer frames after the second bearer frame by a period $2TC$, and outputting these bearer frames; and delaying, in the receiving side, said bearer frames of said second bearer service after the third bearer frame by a period $2T-C$ and outputting said bearer frames. Edem teaches, in a frame-based communication network, delaying each bearer service data in the receiver up to frame offset timing in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration (col. 2, line 51-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a receive delay adding part which delays the first bearer frame by a period $T-C$, the bearer frames after the second bearer frame by a period $2T-C$, and the bearer frames of said second bearer service after the third bearer frame by a period $2T-C$ in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration.

Allowable Subject Matter

14. Claims 8-11 are allowed. The prior art does not disclose or fairly suggest allocating a delay time according to a delay margin obtained by subtracting a system delay from the maximum allowable delay defined by service quality.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

DJR


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